

What is claimed is:

1. An input level translator circuit comprising:
 - a first pass circuit that is coupled to a full-range node, to a first bias node, and to a high-range node;
 - a second pass circuit that is coupled to the full-range node, to a second bias node, and to a low-range node;
 - a first shunt circuit that is coupled between the first bias node and the high-range node; and
 - a second shunt circuit that is coupled between the second bias node and the low-range node.
2. The input level translator circuit of claim 1, wherein the first bias node and the second bias node coincide.
3. The input level translator circuit of claim 1, wherein the first shunt circuit is configured to receive a first cascode bias voltage at the first bias node, wherein the first cascode bias voltage is appropriate for biasing a cascode transistor.
4. The input level translator circuit of claim 1, wherein
 - the first pass circuit is configured to provide a high-range signal at the high-range node in response to a full-range signal,
 - the second pass circuit is configured to provide a low-range signal at the low-range node in response to the full-range signal,
 - the full-range signal has a range from a low-voltage level to a high-voltage level,
 - the low-range signal has a range from the low-voltage level to an intermediate-voltage level,
 - the high-range signal has a range from the intermediate-voltage level to the high-voltage level, and

the intermediate voltage level is partway between the low-voltage level and the high-voltage level.

5. The input level translator circuit of claim 1, wherein:
 - the first bias node is coupled to a gate of a p-type transistor configured to operate as a cascode transistor, and
 - the second bias node is coupled to a gate of an n-type transistor configured to operate as another cascode transistor.
6. The input level translator circuit of claim 1, wherein the first shunt circuit comprises a transistor that has:
 - a gate that is coupled to the full-range node,
 - a source that is coupled to the high-range node, and
 - a drain that is coupled to the first bias node.
7. The input level translator circuit of claim 6, wherein the second shunt circuit comprises a transistor that has:
 - a gate that is coupled to the full-range node,
 - a source that is coupled to the low-range node, and
 - a drain that is coupled to the second bias node.
8. The input level translator circuit of claim 1, wherein the first shunt circuit is configured to influence a resistance between the first bias node and the high-range node depending on a full-range signal.
9. The input level translator circuit of claim 8, wherein the first shunt circuit is configured to isolate the first bias node from the high-range node if the full-range signal corresponds to a first logic level.
10. The input level translator circuit of claim 8, wherein

the first shunt circuit is configured to short the first bias node to the high-range node if the full-range signal corresponds to a second logic level.

11. The input level translator circuit of claim 1, wherein
the second shunt circuit is configured to influence a resistance between the second bias node and the low-range node depending on a full-range signal.

12. The input level translator circuit of Claim 1, wherein
the first shunt circuit is configured to:
short the high-range node to the first bias node when a full-range signal corresponds to a first logic level, and
isolate the high-range node from the first bias node when the full-range signal corresponds to a second logic level, and
the second shunt circuit is configured to:
short the low-range node to the second bias node when a full-range signal corresponds to the second logic level, and
isolate the low-range node from the second bias node when the full-range signal corresponds to the second logic level.

13. A method for translating a level for a full-range signal, comprising:
converting the full-range signal into a high-range signal at a high-range node;
converting the full-range signal into a low-range signal at a low-range node; and
ensuring that at least one of the low-range node and the high-range node is driven during a full cycle of the full-range signal.

14. The method of Claim 13, wherein
the full-range signal has a range from a low-voltage level to a high-voltage level,
the low-range signal has a range from the low-voltage level to an intermediate-voltage level,
the high-range signal has a range from the intermediate-voltage level to the high-voltage level, and

the intermediate voltage level is partway between the low-voltage level and the high-voltage level.

15. The method of Claim 13, wherein
ensuring that the high range node is driven comprises influencing a resistance between a first bias node and the high-range node depending on the full-range signal; and
ensuring that the low range node is driven comprises influencing a resistance between a second bias node and the low-range node depending on the full-range signal.

16. The method of Claim 13, wherein
ensuring that the high-range node is driven comprises shorting the high-range node to the first bias node if the full-range signal corresponds to a first logic level; and
ensuring that the low-range node is driven comprises shorting the low-range node to the second bias node if the full-range voltage corresponds to the second logic level.

17. An input level translator circuit comprising:
a first pass circuit that is configured to provide a high-range signal at a high-range node in response to a full-range signal;
a second pass circuit that is configured to provide a low-range signal at a low-range node in response to the full-range signal;
a first shunt circuit that is coupled between a first bias node and the high-range node, wherein the first shunt circuit is configured to receive a p-type cascode bias signal at the first bias node; and
a second shunt circuit that is coupled between a second bias node and the low-range signal, wherein the second shunt circuit is configured to receive an n-type cascode bias signal at the second bias node.

18. The input level translator circuit of claim 17, wherein
the full-range signal has a range from a low-voltage level to a high-voltage level,
the low-range signal has a range from the low-voltage level to an intermediate-voltage level,

the high-range signal has a range from the intermediate-voltage level to the high-voltage level, and

the intermediate voltage level is partway between the low-voltage level and the high-voltage level.

19. The input level translator circuit of claim 17, wherein
the first shunt circuit is configured to:

short the high-range node to the first bias node if the full-range signal
corresponds to a first logic level, and

isolate the high-range node from the first bias node if the full-range signal
corresponds to a second logic level, and

the second shunt circuit is configured to:

short the low-range node to the second bias node if the full-range signal
corresponds to the second logic level, and

isolate the low-range node from the second bias node if the full-range
signal corresponds to the first logic level.

20. An apparatus for translating a level for a full-range signal, comprising:
means for converting the full-range signal into a high-range signal at a high-range
node;

means for converting the full-range signal into a low-range signal at a low-range
node; and

means for ensuring that at least one of the low-range node and the high-range
node is driven during a full cycle of the full-range signal.